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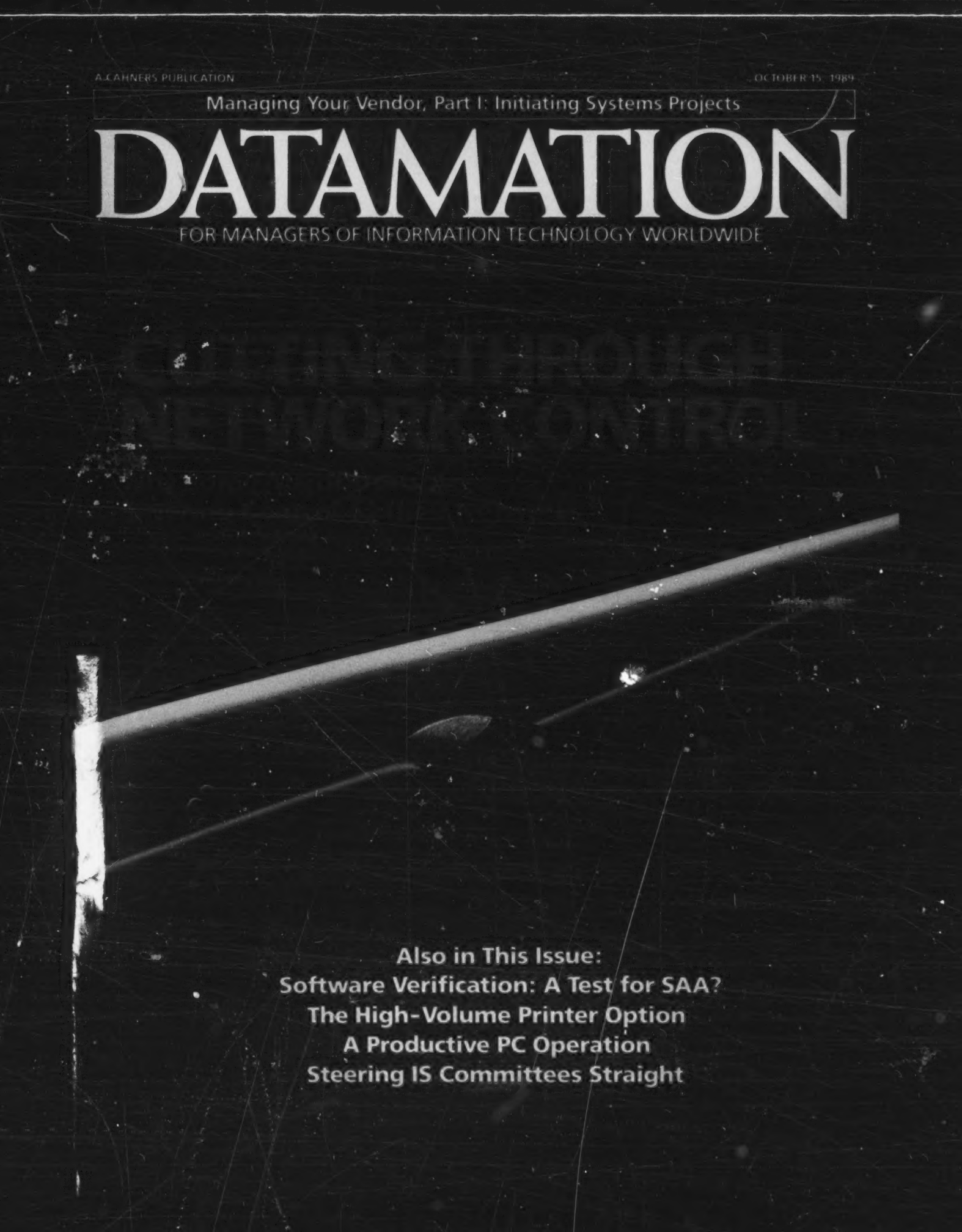
Managing Your Vendor, Part I: Initiating Systems Projects

DATAMATION

FOR MANAGERS OF INFORMATION TECHNOLOGY WORLDWIDE



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Software Verification: A Test for SAA?

The High-Volume Printer Option

A Productive PC Operation

Steering IS Committees Straight

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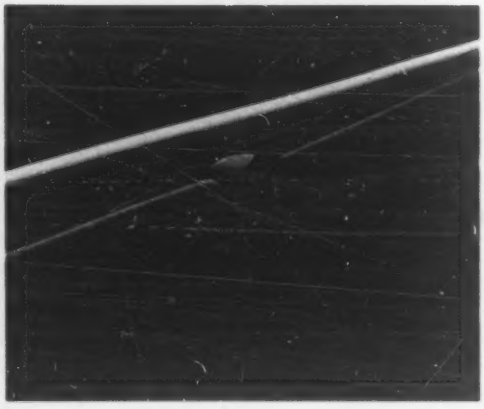

Cutting Through Network Control 30

BY SUSAN KERR Since the breakup of the Bell system, U.S. corporations have spent millions to put in private telecommunications networks. But now some of these firms are turning those networks over to outsiders. Company execs are looking for reduced costs and better use of their internal IS resources. Are they giving up control of a strategic part of their business?

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Cover Photography by David Bradley

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BY ROBERT H. RECK AND VIRGINIA P. RECK The reason so many IS steering committees are inactive or indecisive can be traced to a single flaw: the failure of the IS director to properly identify which role the committee should play in the organization.

New Approaches to Winning IS Strategies

Competitiveness, as overused and abused as the subject might be, does stimulate people to examine old ways of doing business and to think about new ways of building capabilities important to an organization's future. Accordingly, most of the energy expended by IS managers today is directed toward improving their parent organization's standing with customers and against competitors. The result, in some very notable cases, is leading some companies to embrace radical approaches to managing IS resources.

Most radical, perhaps, is relinquishing all or part of a corporate telecommunications network to an outside service provider—the subject of Susan Kerr's cover story, "Cutting Through Network Control," p. 30. This path—down which such well-known U.S. companies as Ford Motor Co. and H.J. Heinz Co. have started—may strike most IS managers as a road to ruin. Many of them have fought long and hard to gain control of the networks that support their organizations and, therefore, are reluctant to give up the data highways now under IS jurisdiction.

KERR DISCOVERS the gains in giving away the nets.

SIVULA PROCESSES what's going on in factory systems.

Photographs by David Bradley

When you examine the motives of the car maker, the catsup producer and other companies like them, however, you begin to see that the decision to shift elements of wide area network management to outsiders isn't an issue of control at all. It's an issue of competitiveness. Ford, Heinz and friends realize that the world has changed since 1984 when AT&T's divestiture gave user organizations the impetus to seize network control. Thanks largely to advances in software, service providers can offer far richer network services at affordable prices. Users, too, face very different challenges than they did five years ago: in order to stay competitive, they must devote a greater amount of their IS human resources toward developing critical applications to run on today's local area networks and platforms.

As radical as the notion of ceding network control to outsiders may sound, the thought of codeveloping applications with suppliers that could then sell the fruit of such labors to competing user companies borders on heresy. Or does it?

In "A Test-Bed for IBM's Strategy," p. 67, Boston bureau manager Chris Sivula finds five major process manufacturers that have pooled their development resources with those of an independent software vendor and a hardware supplier. They are hoping to create applications that will easily integrate factory-floor data and business data to yield the type of analysis chief executives need to judge whether they are making and marketing products as efficiently as competition demands.

No free-world market has been subject to more competition than financial services, the soul of whose products often is information technology itself. That's probably why such financial giants as Aetna Life and Casualty are sharing enormous development responsibilities with key vendors. In the first part of our Managing Your Vendor series, contributor Leila Davis' story, "Initiating Systems Projects," p. 81, outlines why user organizations should look beyond in-house development capabilities toward partnerships with suppliers and consultants.

As much as IS managers should focus on competitiveness, they should not lose sight of other important issues. One is liability for faulty systems—the subject of lawyer J.J. BloomBecker's article, "Malpractice in IS?" on p. 85. It's required reading for all levels of IS management—particularly those individuals building competitive systems, alone or with outsiders, for their organizations.

Tim Mead

Tim Mead, Editor-in-Chief

DATAMATION

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The High-Volume Printer Option

A wide range of users are opting for 51+-page-per-minute nonimpact printers to handle high volumes of customized forms, direct mail and other IS-oriented applications.

BY MARY JO FOLEY

With some technologies, nothing but the fastest and largest will do. Nonimpact printing is no exception.

For the time being, users are choosing the high-end 51+-page-per-minute nonimpact models, whether they have laser, light-emitting diode or ion deposition print mechanisms. This is true despite the recent proliferation of slightly slower, yet far less expensive midrange (31-to-50ppm) page printers.

Most of the high-end zealots are buying the heavy duty printers to fulfill their typical monthly requirements of between 300,000 and 1 million copies, according to the Norwell, Mass., market research firm BIS CAP International Inc. A few other users, such as the service bureau PMC COM & Laser Services Inc. and TRW Inc.'s real estate division, are beginning to exploit the printers' ability to combine high-quality text and graphics.

Most of these users, predictably, fall into the $1 billion-plus annual corporate revenue category. But the fastest growing segment comprises users in the $100 million to $249 million range, according to the La Jolla, Calif.-based market research firm Computer Intelligence.

More is More

In addition, a growing number of users are small- to medium-sized mail houses and service bureaus, which specialize in producing customized forms and direct mail for other companies. Even though the highest end nonimpact printers carry an average price tag of $230,000 each—compared with the $64,000 average selling price for the newer 31-to-50ppm models—many customers believe that a single high-end printer is more effective in terms of price/performance than multiple midrange machines would be.

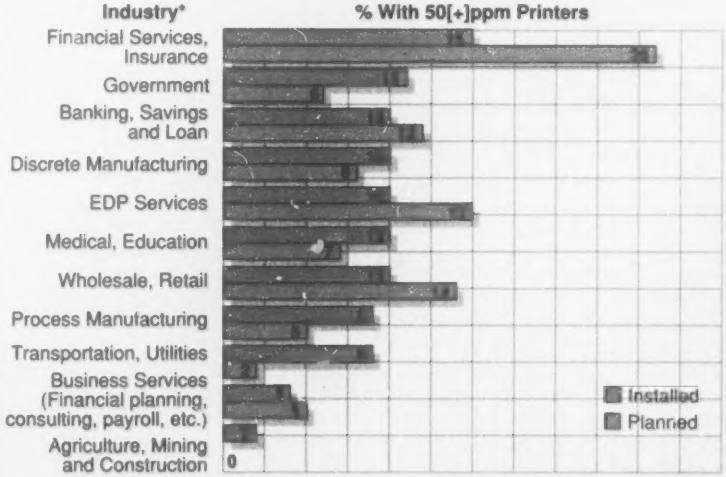
Consequently, while demand for the new generation of 31-to-50ppm printers is expected to climb a hefty 33.5% from 1989 to 1993, according to the San Jose, Calif.-based market research company Dataquest Inc., the bulk of the nonimpact printers sold this year will be in the 51+ppm category. By 1993, however, U.S. nonimpact customers will buy 4,500 midrange nonimpact units, compared with 4,010 51+ppm ones, Dataquest predicts.

Companies are tying the high-end printers into a wide variety of central processing units, ranging from desktop computers to mainframes. And, as BIS CAP industry analyst David Hudson points out, most users still rely on these printers to handle traditional DP-oriented applications, such as accounting dumps, forms and bill generation, internal reports and other large-volume batch functions.

The direct mail operation at Reader's

The Most Print-Intensive Industries

Financial services and insurance companies lead in high-end printer installations and planned installations.



*Information based on a survey of 3,300 U.S. companies.

Source: Computer Intelligence.

Digest Association Inc., for example, employs its high-end printer to generate some complex personalized correspondence. But it is the printer's horsepower, more than any other feature, that caused the firm to choose a high-end, and not a midrange, printer.

Reader's Digest carefully evaluated the possibility of using one or more of the new 31-to-50ppm page printers now on the market. It realized, however, that "we work in such high volumes that [midrange] printers alone aren't a realistic option," explains G. Thomas Pumo, associate director of DP technical services.

READER'S DIGEST'S PUMO: High volume direct mail requirements caused the company to choose a high-end printer.

In fact, the $1.4 billion Pleasantville, N.Y.-based company is one of the largest of the large-volume printer customers. Its IBM 3090 mainframe-resident database of prospects for its direct mail sweepstakes contains tens of millions of names. Pumo's division generates 300 million personalized direct mail letters each year to promote magazine subscriptions, book sales and other products.

Most of these direct mail pieces are generated in house by one of the company's five Siemens AG 2300 (103ppm) laser printers. A sixth 2300, also linked to the 3090, is used exclusively for data center testing and report generation.

Like Reader's Digest, Denny's Inc., the Irvine, Calif.-headquartered restaurant chain, opted for high-end machines because of the sheer volume of print requests it faced. The company originally relied on a single IBM 3800-3 high-end printer for all of its check- and report-printing needs. Three years ago, however, the information services division, fearing the havoc a system failure could wreak, decided to divide its in-house printing work among three high-end machines: a 70ppm Xerox Corp. 8700 and two 60ppm Storage Technology Corp. 6100s.

"We did reliability and price analyses, and Xerox and STC won," says Ronald Waters, manager of computing services. The company's priorities were speed and service, and it is satisfied with the printer choices it has made, he adds.

Smaller entrepreneurial start-ups are interested in high-quality text and graphics printing as a way to differentiate their products. The two-year-old Jacksonville, Fla.-based service bureau PMC COM, for one, already is the proud owner of three high-end Xerox printers: two 50ppm model 4050s and a newer 92ppm model 4090.

The bureau produces a wide variety of materials for its 45 printing customers, including year-end summary statements for financial companies, collection letters for hospitals, bar codes and labels for grocers, and order books and statements for wholesalers. PMC COM's customers provide it with tapes generated on various types of computers from which the bureau prints near-offset quality documents.

PMC evaluated all of the big name firms' offerings and chose Xerox, which had "the only piece of equipment with all the bells and whistles," claims company president Leila LeVan.

PMC also is looking to its Xerox machines to accommodate some jazzy new applications. The company is increasingly able to handle jobs previously done only by offset printers, such as consecutively numbered tickets and customized forms that can be generated on demand.

Another direct mail specialist that opted for a top of the line printer is the Colton, Calif.-based Real Estate Information Division of TRW. For the past year, the division has been migrating to a Kodak Ektaprint 1392. The printer is the heart of Kodak's Ektaprint Electronic Publishing System (KEEPS). "There were cheaper alternatives," acknowledges Rodger Cosgrove, manager of national accounts for the TRW division. "But we didn't want to be penny-wise in the short run but pound-foolish in the long run."

TRW Migrates to Kodak 1392

The TRW division uses the 1392 for two distinct applications: batch generation of statistical reports and production of direct mail pieces. Both applications are based on the same massive, proprietary database the company has built up over the years. The database consists of information gleaned from the 500,000 legal documents—deeds, trusts, grants and warranties documenting metropolitan real-estate transactions—that TRW data entry persons key into the division's 50 IBM-compatible 80286 and 80386 PCs. Images, such as digitized signatures, maps and diagrams, are input via a Kodak 1530 document scanner.

The company designs customized statistical abstracts, which average 500 pages each, and direct mail pieces for over 1,000 small-business owners. The printer's ability to combine high-quality text and graphics in a single document allows, for example, a local bank branch manager's digitized signature and a neighborhood map showing the location of the branch to be included in a letter soliciting new accounts. TRW calls this "advertising with intelligence."

Before purchasing KEEPS and its 1392 printer, TRW used a variety of desktop laser printers to generate a single master of a report or a piece of direct mail, then subcontracted out the high-speed copying. When evaluating replacement printers, the division rated nearly all of the available mid- and high-range printers by print quality, speed, cost per thousand pages to run, user interface, flexibility, reliability and installed base. The 1392 enables the division to produce the print quality nearest to offset, as well as save money and production time, says Cosgrove. ▭

Mary Jo Foley is a high-technology writer based in Cambridge, Mass.

Photograph by Judy Pasmore

A Test-Bed for IBM's Strategy

Five major process manufacturers and a manufacturing software developer could help IBM execute its newest strategies to achieve a greater share of the industrial-computing marketplace.

BY CHRIS SIVULA

An IBM-based integrated environment for process manufacturers being promised by a couple of entrepreneurs in Virginia, called the Process Operations Management System (POMS), is likely to have an impact that reverberates well beyond the factory floor.

POMS may be a bellwether for IBM's various strategies aimed at positioning the company as an overall systems supplier for the 1990s. It is an early application of Systems Application Architecture (SAA) being developed by a third party and driven by some major IBM customers, but it is also designed to accommodate other vendors' equipment. As such, POMS embodies precisely the points of IBM's plans for the future that have yet to be fully tested.

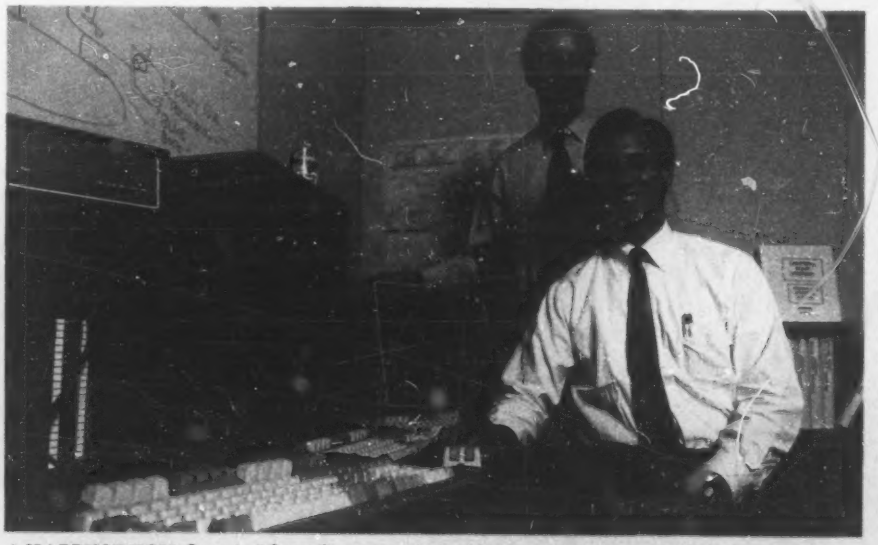
In manufacturing specifically, IBM may be hoping to parlay any success it may have with POMS in process industries into areas of manufacturing. Traditionally, IBM has succeeded in process industries, while Digital has taken the lead in manufacturing with its plant floor systems.

Specifically to develop POMS, Curtis Grina, a computer scientist, and Paul Minor, a process engineer, launched Industrial Computing Designs Corp., or Incode, in Reston, Va., late last year. POMS is a software system designed to allow users to easily share information from the factory floor with the business side of process manufacturing. As such, POMS is likely to test the relationship between IS departments and engineers working on the factory floor by forcing a closer union between them.

What POMS will do for IS directors, according to Bruce Richardson, vice president at Advanced Manufacturing Research Inc., a consulting firm based in Cambridge, Mass., is give them access to data that will improve business applications, like generating reports and analyzing trends. "Before, he's [the IS director] never had a clue on how to get that data up from the shop floor," Richardson says.

When the product is shipped, probably in December, a network of IBM PS/2 personal computers running the OS/2 Extended Edition operating system will serve as the POMS platform. The network will connect data acquired from the programmable logic controllers on the factory floor to applications running on an IBM AS/400, 370 or other vendor's host anywhere in the company. Users will be able to purchase POMS for $4,900 per workstation; site licenses will also be available.

POMS will serve as a proving ground for IBM's pledge that SAA will offer solutions



A HAPPY UNION: Campbell Soup Co. ensured a healthy partnership between IS and engineering for the POMS project by hiring engineer Alan Carr (seated) from the R&D division as manager of CIM. Also important, says Rob Cohen, director of MIS development services, are Campbell's high-level champions of CIM.

Photograph by Sal Di Marco

including competitors' products, according to Incode's president Grina. "There's a huge emphasis [in the POMS development] on standards, connectivity and networking. POMS is an IBM product, but it has to operate in a multivendor environment," he says. "Our emphasis from a marketing point of view is the IBM midrange, but customers are already talking about interfacing from Hewlett-Packard or Digital Equipment midrange machines."

Rather than rely on traditional venture funding to develop the product, Grina and Minor, Incode's chief executive officer, struck an agreement with IBM's Process Industries group in Valhalla, N.Y., and a consortium of five process manufacturers. Under the agreement, Incode will own the POMS software, and IBM will have marketing rights. Such agreements, which team entrepreneurial software developers, big system vendors and big customers to develop critical applications, are becoming more common.

The five manufacturers—Campbell Soup Co., Johnson & Johnson, Nestle Food Corp., Ralston Purina Co. and SmithKline & French Laboratories International—will be test-beds for POMS. They and IBM's Process Industries group are contributing the equivalent of 43 full-time people to validate, review the design and conduct alpha and beta testing, says Incode's Grina. A 15-member development team at Incode is handling the design, documentation and coding, which the company estimates will take about two years and about $2.5 million to complete.

□ POMS Is An IBM Product, But It Has To Operate In A Multivendor Environment.

In exchange for some capital and their participation in the software's development, the five process manufacturers will get an enterprisewide license to use the code, Grina says. Walt Carey, director of manufacturing systems development at Nestle Foods, sees an additional advantage for his company. By participating in the development, Nestle gets a product tailored to its needs. "That's one of the major factors," Carey says. "We wanted to have input so that this system would be useful to us."

From the developer's point of view, the arrangement is ideal, partly because it provides a pool of industrial expertise and partly because it frees Incode of pressures to turn a quick profit. "It's a venture opportunity, but there's no outside venture capital. We don't have to deal with bankers and venture capitalists," Grina says. "It's a nice way to develop software."

If POMS provides the seamless integration its developers promise, it could help IBM keep what the Boston-based market research firm Yankee Group says is an overall lead in the industrial-computing marketplace, which comprises plant floor and factorywide systems. But IBM's primary competitor in this market, Digital, leads Big Blue by a healthy margin in several categories.

For example, IBM holds a comfortable 52% share of the market for plant floor monitoring and control systems in process industries, according to the Yankee Group. But when it comes to the total population of those plant floor systems for all areas of manufacturing, its 24% share lags behind Digital's 33.5% share (see chart, "Building on a Strength in Process Industries").

Increasing its installed hardware base in the manufacturing arena is an obvious goal, agrees IBM's Reed Finn, one of the company's support representatives for the process industry. "We know that there are over 16,000 [process-manufacturing] plants in the U.S. with over 100 employees. That's a number that certainly gains our attention," he says.

POMS as an SAA Building Block

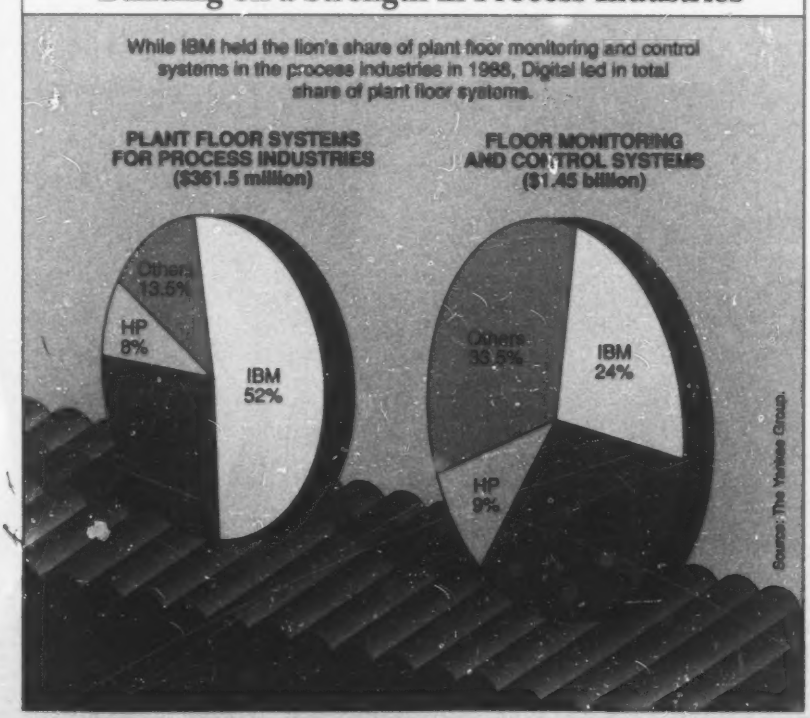
When POMS ships as one of the first SAA applications, it will incorporate many SAA building blocks, including OS/2 Extended Edition, and Presentation Manager. IBM hopes the software will be successful enough to boost SAA's popularity, Finn says. "We think this application will be a good demonstration [of SAA]."

Advanced Manufacturing's Richardson sees POMS as more than simply a validation of SAA. It has the potential to lock in third-party developers that build applications to run on top of POMS, he says.

Some of the consortium's participants are already recruiting additional developers. Marcam Corp. of Newton, Mass., was brought in at the outset to produce an interface to Prism, Marcam's popular material requirements planning (MRP) system for process industries. Nestle Foods cut a separate deal with Exsys Inc. of Albuquerque, N.M., to create an interface to POMS for Exsys' expert system software. These are early entries in what developers hope will be a full catalog of add-on products. "What they [IBM] will

Building on a Strength in Process Industries

While IBM held the lion's share of plant floor monitoring and control systems in the process industries in 1988, Digital led in total share of plant floor systems.



end up with," says Richardson, "is a network of [SAA] evangelists."

In fact, John Campbell, executive vice president at Marcam, sounds a bit evangelical. "Engineers come out of a background using DECs, and they think that's the only box that they can use on the shop floor, but I think IBM has proven that the PS/2 is a pretty viable piece of equipment," he says.

IBM may be hoping that POMS will be further proof of PS/2 viability, particularly in its competition with Digital. "Think of it as a direct bull's-eye on VMS," Richardson says.

At Digital, IBM's move to an integrated environment in the process industry is viewed as a game of catch up. "Network Application Support [Digital's integrated environment] allows you to integrate every application in your network," says Don Jenkins, development manager for the company's computer-integrated manufacturing (CIM) marketing and product development organization.

Marcam's Campbell concedes Digital's lead in providing connectivity, but adds that it has been missing the applications. "Their [Digital's] attitude is 'roll your own. We'll give you the boxes, we'll give you all the connectivity, and you go out and figure out what the solution is.'"

Digital's Jenkins counters that process manufacturers are so complex and varied that any packaged solution is going to require customization. "Excellent solutions are not static," Jenkins says.

☐ THE PLANT GUYS HATE MIS AND MIS HATES THE PLANT GUYS. IRONICALLY IBM WILL LINK THEM.

POMS Creates IS Challenge

Indeed, in linking business applications to the factory floor, CIM applications like POMS are creating new challenges for IS departments in process manufacturing companies.

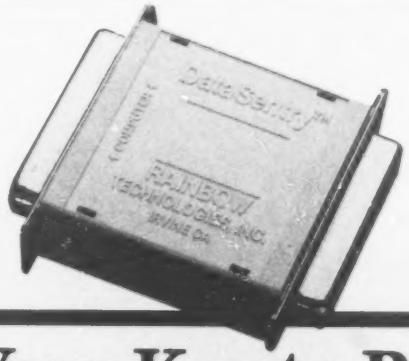
"Traditionally, there has not been a good track record of [IS and plant floor staff] working together. It's going to take a lot of commitment on the part of these people to break down barriers," Incode's Grina says.

Richardson sees a sort of demilitarized zone between the two environments. "It's always been two worlds—the plant guys hate MIS, and MIS hates the plant guys. Ironically, IBM is going to link them," he says.

Paul Ross, director of information services at Ortho Pharmaceutical Corp., a subsidiary of Johnson & Johnson, has observed similar issues surrounding the process industry's move to CIM via systems like POMS.

"Engineers are beginning to want to manipulate and analyze data collected on the factory floor in more meaningful ways. To do that, they need to get to a higher level," Ross says. That means connecting to the corporate host, which is typically ruled by IS.

Only time will tell how that new trend will change the IS director's life, Ross says. "This is all new territory. I don't think any of the players understand their new roles or how it's going to come together," he says. "Nobody knows what it means right now." ▭



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